

Attorney Docket No. P69665US0
Application No. 10/824,645

Remarks/Arguments:

Claims 1, 2, 4, 8-11, and 13-19 are pending.

Claims 3, 5-7, and 12 are cancelled, without prejudice or disclaimer.

Applicants wish to thank the examiner for reconsidering the restriction requirement and examining the subject matter of previously withdrawn claims 12, 14, and 15.

Claim 1 is amended by limiting the amounts of the components to those recited in dependent claims (now cancelled), i.e.,

wherein the main monomer is present at an amount of 80% to 90% by weight of the polymer particles, the functional monomer is present at an amount of 5% to 15% by weight of the polymer particles, and the cross-linking agent is present at an amount of 1% to 10% by weight of the polymer particles,

and by limiting the "cross-linking agent" component to be

selected from the group consisting of 2-(diethylamino)ethyl acrylate, 2-(dimethylamino)ethyl acrylate, 2-(dimethylamino)ethyl methacrylate, 2-(diethylamino)ethyl methacrylate, and N,N'-methylenebisacrylamide (BisAAM),

i.e., the Markush group recited in a dependent claim (now cancelled). Support for these amendments is found in claims 3, 5, 6 and 7 and at pages 5 to 7 and in the experimental examples of the instant application as filed.

Claims 1, 2, 4 to 9, and 16 to 19 were rejected under 35 USC 103(a) as allegedly obvious over US Patent No. 4,683,258 (Itoh et al.) in view of US Patent No. 6,322,665 (Sun et al.). Reconsideration is requested.

The PTO alleges that Itoh teaches a method for manufacturing a composition that can optionally incorporate an odor preventive, in which the method comprises reacting a homopolymer

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or copolymer of at least one N-alkyl or N-alkylene substituted acrylamide or (meth)acrylamide, a crosslinkable monomer such as N,N'-methylenebisacrylamide, and an initiator and incorporating the resulting composition into a fibrous material.

The PTO argues that, although Itoh does exemplify manufacturing a deodorant using the components recited in the present claims and, furthermore, does not teach the specific use of cyclodextrin, these deficiencies are allegedly cured by the teachings of Sun et al.

The PTO alleges that Sun teaches a high, wet-performance web comprising a polymeric anionic reactive compound (PACR) solution applied to a cellulosic fibrous web. The natural or synthetic cellulosic fibers include nonwoody fibers, such as cotton lines and other cotton fiber, rayon etc. The PACR solution can be applied by any method including coating. Other chemical treatments can be incorporated into the web, such as odor-control substances such as cyclodextrins. In view of these alleged teachings of Sun, the PTO argues that it would have been obvious to one skilled in the art, in view of the combined teachings of Itoh and Sun, to prepare the "polymer particles"—using the components recited in the present claims—and then load the polymer particles with the "deodorant agent"—to effect the deodorant-loaded polymer particles capable of attaching to a fibrous material, as presently claimed.

More specifically, according to the PTO, since Itoh allegedly suggests polymerization of the "main" and "functional" monomers recited in the present claims, in the presence of crosslinking agents with the use of an initiator, and additives such as odor preventives for integration into fibrous material, it would have been obvious to one of ordinary skill in the art to use the instant compounds

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because they are all useful in making an absorbing and releasing agent for integration into fibrous material. The PTO argued that, although Itoh does not teach loading the deodorant agent to the polymer particles, to do so would be obvious to one of ordinary skill in the art because fibrous material will be able to absorb moisture as well as prevent odor from occurring in the fibrous material. Furthermore, although Itoh does not teach how the polymeric particles are attached to the fibrous substrate, one of ordinary skill in the art would readily assume that, since the instant components and the components taught by the prior art are allegedly the same, in the absence of evidence to the contrary, the polymeric particles would be attached to the substrate by hydrogen bonding.

In particular, the PTO alleges that because Itoh suggests that odor preventives can be added to the composition for absorbing and releasing water vapor, it would have been obvious to one of ordinary skill in the art to use cyclodextrin as it is allegedly known, in view of Sun, to be used as an odor controlling substance in polymeric compositions for application onto a fibrous material.

Itoh teaches a process of manufacturing a composition for absorbing or releasing water vapor. The composition is such that it has a hygroscopic capacity which varies significantly in degree depending on the temperature. For example, when the composition is heated, it can easily release a relatively large amount of water which has been absorbed at a relatively low temperature.

Particularly, the composition of Itoh has:

a) a water insolubilized product prepared from:

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- (i) a homopolymer of a monomer selected from the group consisting of N-alkyl- and N-alkylene-substituted (meth)acrylamides;
 - (ii) a first copolymer of at least two monomers selected from the group consisting of N-alkyl- and N-alkylene-substituted (meth)acrylamides; or
 - (iii) a second copolymer of at least one monomer selected from the group consisting of the N-alkyl- and N-alkylene-substituted (meth)acrylamides and at least one monomer other than the N-alkyl- and N-alkylene substituted (meth)acrylamides which is copolymerizable with the N-alkyl and N-alkylene-substituted (meth)acrylamides; and
- b) a hygroscopic material selected from the group consisting of metal halides and metal perchlorates.

Additives such as surfactants, perfumes, rust preventives, colorants, odor preventives, antiseptics, abrasives, builders and the like; polymerization initiators for initiating radical polymerization, and crosslinkable monomers may be added to the composition. Still further, the polymer may be integrated with a fibrous material. The composition of Itoh is such that upon contact of the composition with gaseous water, for example, water vapor, the composition absorbs and holds water therein. Thus, the composition as taught by Itoh can absorb and release water depending on the humidity and temperature of the surrounding atmosphere and this process can be repeated. Since more water or moisture can generally be absorbed at lower temperatures than at higher temperatures, it is feasible to use the composition in dehumidifiers or demisturizers, at low temperatures, and as humidifiers or moisturizers, at higher temperatures. Itoh teaches that, because the compositions have

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such functions, by their use changes in relative humidity or moisture level due to temperature variations are reduced, so as to maintain the relative humidity, or constant moisture, level.

Sun teaches a method for making high wet-performance webs. The method as taught by Sun includes applying a polymeric anionic reactive compound (PARC) solution onto a web, followed by curing. Sun teaches that, with this method, the webs produced have a high wet strength as compared to webs made according to other methods. Particularly, the Sun method imparts high wet resiliency, high wet strength, and a high wet/dry strength ratio to wet-formed webs.

It is noted from the Sun reference that other chemical treatments of the web can also be considered, desirably after curing the PARC. These include incorporation of superabsorbent particles and odor-control substances such as cyclodextrins, baking soda, and chelating agents, as well as the topical application of waxes, emollients, and hydrophobic material over portions of the web.

Since Itoh allegedly suggests polymerization of the "main" and "functional" monomers in the presence of cross-linking agents, with the use of an initiator, and additives such as odor preventives for integration into fibrous material, as presently claimed, the PTO alleges that it would have been obvious to one of ordinary skill in the art to use the instant components, because they are useful in making an absorbing and releasing agent for integration into fibrous material.

Applicants respectfully submit that the PTO's arguments are not well taken.

First of all, whether one of ordinary skill in the art may have known how to use fibrous material to absorb moisture as well as how to prevent odor from occurring in the fibrous material, is of no moment. "While the skilled artisan may have gained sufficient knowledge" to use fibrous

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material to absorb moisture as well as how to prevent odor from occurring in the fibrous material, "that presumed knowledge does not grant a license to read into the prior art reference teachings that are not there." *Motorola Inc. v. Interdigital Technology Corp.*, 43 USPQ2d 1481, 1490 (Fed. Cir. 1997).

Applicants emphasize that the Itoh composition is for absorbing and releasing water upon changes in relative humidity of the surroundings, so as to be effective in maintaining a constant humidity or moisture level. In fact, Itoh teaches that the water vapor absorbing and releasing agent of its invention may, therefore, be used as a humidity-controlling agent for the humidification, dehumidification, and humidity maintenance of gases, for the prevention of moisture condensation on walls and the like, as an antifogging agent for glasses and the like, as a humidity and dew sensor, etc. Included, also, in the Itoh composition is a hygroscopic material selected from the group consisting of metal halides and metal perchlorates. Thus, with the combination of hygroscopic material and the water insolubilized product, which is prepared from polymers, the Itoh composition is specifically useful for absorbing and releasing water.

In contrast to Itoh, the presently claimed invention is directed to a method of preparing deodorant-loaded polymer particles, which particles (1) are capable of releasing the deodorant at certain temperatures and (2) have improved adherence to textiles. In particular, in the presently claimed invention, the deodorant agent is, either, loaded into the polymer particles (i.e., microgels) during synthesis of the microgels, or absorbed into the microgels bound to the fibrous materials, due to hydrophobic interactions between the deodorant and the stationery phase. Thus, upon contact with

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warm body fluid or human skin, the microgels shrink and, with the change in hydrophobicity, the deodorant is released in a controlled manner.

As can be seen from the experimental examples of the specification, only by undue experimentation did the present inventors find the particular combination of components, in their specific range amounts, leading to the deodorant with the above properties obtained by the presently claimed method.

To better define the invention applicants have both specified the cross-linking agent used, and incorporated the specific amounts of the main monomer, the functional monomer, and the cross-linking agent present, in the deodorant (as explained above).

As presently claimed, applicants' method is neither taught nor suggested by the cited references, taken alone or in combination.

First of all, there is no motivation or suggestion from the teachings of Itoh and Sun to make a composition for releasing a deodorant as presently claimed. In view of the absence of the deodorant components in the teachings of Itoh and that the Itoh composition is directed to an entirely different use from the presently claimed invention, there is in no way that a person skilled in the art would, in view of the teachings of Itoh and Sun, be lead to the presently claimed invention.

Second, although Sun teaches that cyclodextrins can be used as an odor-control substance, there is no motivation or suggestion from the teachings of Itoh and Sun that a person skilled in the art would combine Itoh with the teachings of Sun to arrive at the method of preparing deodorant-loaded polymer particles capable of attaching to a fibrous material, so as to provide a controlled

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release of deodorant agent upon contact with warm body fluid or human skin, as presently claimed. Accordingly, there would be no motivation or suggestion to a person skilled in the art to combine the teachings of Itoh with that of Sun to be lead to the presently claimed invention.

As can be seen from Examples 1 to 8 of the present application, the present inventors have performed extensive experiments with the method of preparing the deodorant particles of the presently claimed invention. Applicants emphasize that, by discovering the particular combination of components, in their specific range amounts together with the specific sequence of method steps as presently claimed, the present inventors found an effective method of manufacturing deodorant-loaded polymer particles, which the deodorants is released at certain temperatures and which have improved adherence to textiles.

With all due respect, the rejection uses the rejected claims as a blueprint and searches the prior art to pick and chose from among separate disclosures—in separate prior art references—the various elements needed to meet all the claim limitations. This amounts to proscribed *hindsight* analysis. "One cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re Fine*, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988). It is

impermissible to use the claims as a frame and the prior art references as a mosaic to piece together a facsimile of the claimed invention.

Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988).

It is impermissible within the framework of §103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other

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parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.

In re Hedges, 228 USPQ 685, 687 (Fed. Cir. 1986).

For the above reasons, Itoh and Sun neither teach nor suggest the presently claimed invention, and there is no motivation to combine the Itoh reference with the Sun reference in order to suggest the claimed invention. Accordingly, the rejection is overcome and withdrawal of the rejection appears to be in order.

Claims 3, 10 and 11 were rejected under 35 USC 103(a) based on Itoh et al. in view of Sun et al. and US Patent No. 5,284,900 (Izubayashi et al.). Reconsideration is requested.

The PTO acknowledges that Itoh and Sun do not teach or suggest the use of a binding agent and the use of the main monomer in an amount of 80 to 90%. Allegedly, these deficiencies are cured by the teachings of Izubayashi.

Particularly, the PTO alleges Izubayashi suggests that, when using the coating compositions as an over coat composition, crosslinking (binding) agents such as glutaraldehyde are added to the composition. Therefore, the PTO argues it would have been obvious to one of ordinary skill in the art to add a binding agent—to the combined teachings of Itoh and Sun—as these agents would help provide excellent adhesive properties to the coating composition when used on fibrous material.

Furthermore, the PTO alleges that although Itoh and Sun do not teach the use of the main monomer in an amount of 80-90%, it would have been obvious to one of ordinary skill in the art to use the main monomers of N-substituted alkyl acrylamide in that amount when preparing coating compositions on fibrous materials.

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Izubayashi teaches an aqueous resin dispersion in which the resin produced by emulsion polymerization crosslinks together with the emulsifier used to form a coating film. In particular, a compound having a carboxyl group and a long chain alkylthio group or a salt thereof is used as an emulsifier and emulsion polymerization is carried out using a polymerizable monomer or monomers having a group reactive with a carboxyl group as raw materials for emulsion polymerization. Izubayashi has found that the aqueous resin dispersions provided are excellent in adhesiveness to various substrates, water resistance, moisture resistance and durability, as well as free from the risk of fire or environmental pollution, less subject to foaming and easier to handle as compared with aqueous resin dispersions or the like produced by using known low-molecular-weight emulsifiers.

Accordingly, Izubayashi teaches that the aqueous resin dispersions are useful as textile finishing compositions. According to the reference, since they are excellent in adhesiveness to natural or synthetic, organic or inorganic fibers, they can be used as binders for non-woven fabrics and paper made of such fibers and as surface treating compositions, adhesives and other compositions to be applied to cloths, paper and other textile products made of such fibers.

In view of the above proposed arguments with respect to Itoh and Sun, it is clear that Itoh and Sun in combination do not teach the presently claimed invention as claimed in the amended claims.

Itoh and Sun do not teach or suggest a deodorant loaded polymer particles for releasing deodorant at certain temperatures, nor does the reference teach or suggest a method of preparing such deodorant. In fact, Itoh teaches the combination of a hygroscopic material with a water insolubilized

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product prepared from polymers, so as to prepare a composition specifically directed to absorbing and releasing water, i.e., not deodorant.

Furthermore, although Sun teaches that cyclodextrins can be used as an odor control substance, the skilled action gets no motivation or suggestion from the teachings of Itoh to combine it with the teachings of Sun see present claims to arrive at the method of preparing deodorant loaded polymer particles capable of attachment to which may be loaded onto a fibrous material so as to provide a controlled release of deodorant upon contact with warm body fluid or human skin.

Although Izubayashi teaches the use of the main monomer in an amount of 80 to 90% and the use of a binding agent, Izubayashi is specifically directed to aqueous resin dispersions, which act as binders for non-woven fabrics. The teachings of Izubayashi combined with Itoh and Sun would not cure the deficiencies of the Itoh and Sun references.

Thus, there is no motivation or suggestion from the teachings of the cited references, taken alone or in combination, that would have lead a person skilled in the art to a method of preparing deodorant-loaded polymer particles capable of attachment to a fibrous material, so as to provide a controlled release of deodorant upon contact with warm body fluid or human skin, as in the present claims. While a

suggestion, teaching, or motivation to combine the relevant prior art teachings does not have to be found explicitly in the prior art . . . rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.

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In re Kahn, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). *KSR International Co. v. Teleflex, Inc.*, 550 U.S. ___, 127 SCt 1727, 82 USPQ2d 1385 (2007).

In view of the foregoing claim amendments and remarks, the rejection of claims under §103(a), based on the Itoh combined with the teachings of Sun and Izubayashi is overcome. Withdrawal of the rejection appears to be in order.

***Request Under MPEP 706.07(d) To Withdraw
Premature Final Office Action***

Request is made, hereby, for reconsideration and withdrawal of the instant "Final" Office Action and for a new, non-final action in place of the Final Action, which new action restarts the time period for response. As explained, below, withdrawing finality of the Office Action is required, in accordance with MPEP 706.07(a) and 706.07(d), because the Final Action contains a *new ground of rejection* that was *not necessitated by amendment of the claims*, which renders the finality *premature*.

When finality of an Office Action is "premature," the "finality of the Office Action must be withdrawn." MPEP 706.07(d). A final Office Action is "premature," for purposes of MPEP 706.07(d),

where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims nor based on information submitted in an information disclosure statement filed during the period set forth in 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p).

MPEP 706.07(a).

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The Final Action contains an acknowledged *new ground of rejection* applied, *i.a.*, against claim 1 (as previously presented) under 35 USC 103(a) based on the combined teachings of Itoh and Sun. The Final Action *incorrectly* alleges that the new ground of rejection—as applied against claim 1 (as previously presented)—was "necessitated" by "applicant's amendment."

Claim 1 (as previously presented) constitutes original claim 12 rewritten as an independent claim. In other words, claim 1 (as previously presented) contains the identical subject matter as original claim 12. Accordingly, the same claimed subject matter examined in the first Office Action—as claim 12—was examined in the final Office Action—as claim 1.

Since the original claim 12 subject matter was not amended subsequent to the first Office Action—but merely rewritten as an independent claim, *i.e.*, as previously presented claim 1—the new ground of rejection against claim 1 (as previously presented) was not, and could not have been, "necessitated" by "applicant's amendment," allegations to the contrary in the Final Action, notwithstanding.

On the contrary, in fact, the new ground of rejection against claim 1 (if "necessitated," at all) was "necessitated" by the PTO decision to not reject original claim 12 (in the first Office Action) under §103(a) based on the combined teachings of Itoh and Sun.

Being that the Final Action is one "where the examiner introduces a new ground of rejection that is . . . [not] necessitated by applicant's amendment of the claims," making the Action "Final" was "premature." MPEP 706.07(a). Being "premature," the "finality of the Office Action must be withdrawn." MPEP 706.07(d).

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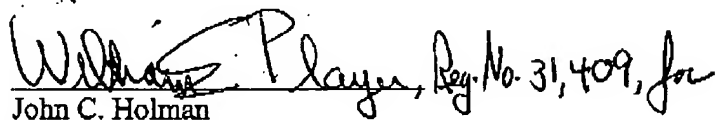
For the foregoing reasons, the "Final" Action was premature and, so, the finality must be withdrawn. MPEP §§ 706.07(a), 706.07(d). Accordingly, a new, non-final Office Action issued by the PTO is in order – in place of the Final Action – which new Action resets the time period for response as of its mailing date.

Favorable action is requested.

Respectfully submitted,

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